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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/731,705	12/09/2003	Timothy J. Wojcik	86236WRZ	5248

7590 01/18/2005
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EXAMINER

COLILLA, DANIEL JAMES

ART UNIT	PAPER NUMBER
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2854

DATE MAILED: 01/18/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/731,705

Applicant(s)

WOJCIK ET AL.

Examiner

Daniel J. Colilla

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 09 December 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-25 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-10 and 15-25 is/are rejected.
- 7) ☒ Claim(s) 11-14 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 09 December 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 20031209
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: _____

DETAILED ACTION

Drawings

1. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they do not include the following reference sign(s) mentioned in the description: **46** (as mentioned on page 14, line 7 of the specification. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Objections

2. Claim 23 is objected to because of the following informalities: in claim 23, line 2, it appears that "including" should actually be --includes--. Appropriate correction is required.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an

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international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. Claims 1, 5-6, 15 and 17-18 are rejected under 35 U.S.C. 102(e) as being anticipated by Goldberg et al. (US 6,513,924).

With respect to claim 1, Goldberg et al. discloses a system for printing and treating a recording element including a printhead 64 for dispensing a liquid ink comprising a carrier (water). Goldberg et al. further discloses a carrier removal station 70 (col. 6, lines 36-41) which removes a portion of the carrier from the recording element 62. While Goldberg et al. does not explicitly recite that a predetermined percentage of carrier is removed, it is inherent in the design of the system that the carrier removed be within an adequate, predetermined range that achieves the desired function without removing too much carrier and causing damage to the recording element. Col. 6, lines 61-67 and col. 7., lines 1-7 of Goldberg et al. disclose how various aspects of the system are controlled in order to evaporate a desired amount of the carrier. Also disclosed by Goldberg et al. is a converting station 72,74 positioned downstream of the carrier removal station 33, which increases the recording element's durability by applying a binder (Goldberg et al., col. 6, lines 42-50).

With respect to claim 5, Figure 3 of Goldberg et al. indicates the recording element 62 coming from an un-shown source upstream of the printhead 64.

With respect to claim 6, every printing system will have some type of footprint dimension when put on a desktop.

With respect to claim 15, Goldberg et al. discloses a controller 92 that is electrically connected to the carrier removal station 70.

With respect to claim 17, Goldberg et al. discloses a recording element printing and treating method including the steps of printing a liquid on a recording element with a printhead 64 for dispensing a liquid ink comprising a carrier (water). Goldberg et al. further discloses a removing a predetermined percentage of carrier with a carrier removal station 70 (col. 6, lines 36-41) which removes a portion of the carrier from the recording element 62. While Goldberg et al. does not explicitly recite that a predetermined percentage of carrier is removed, it is inherent in the design of the system that the carrier removed be within an adequate, predetermined range that achieves the desired function without removing too much carrier and causing damage to the recording element. Col. 6, lines 61-67 and col. 7., lines 1-7 of Goldberg et al. disclose how various aspects of the system are controlled in order to evaporate a desired amount of the carrier. Also disclosed by Goldberg et al. is a step of increasing a durability characteristic of the recording element with binding and heating devices 72 and 74 respectively (Goldberg et al., col. 6, lines 42-50). The step of increasing the durability with devices 72 and 74 is distinct from the step of removing a carrier with heating device 70.

With respect to claim 18, Figure 3 of Goldberg et al. shows that the operations are carried out along a continuous recording element travel path.

5. Claims 17 and 19-25 are rejected under 35 U.S.C. 102(e) as being anticipated by Jurrens et al. (US 6,679,599).

With respect to claim 17, Jurrens et al. discloses a recording element printing and treating method including the steps of printing a liquid 94 comprising a carrier onto a recording element 106 as shown in Figure 1 of Jurrens et al. Further disclosed is a step of removing a

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predetermined percentage of carrier present in the recording element 106 with heated roll 100.

While Jurrens et al. does not explicitly recite that a predetermined percentage of carrier is removed, it is inherent in the design of the system that the carrier removed be within an adequate, predetermined range that achieves the desired function without removing too much carrier and causing damage to the recording element. Jurrens et al. also discloses a step of increasing a durability characteristic of the recording element 106 by coating it with a thermal transfer overcoat material 12 and passing the recording element between two rollers 100 and 116. This step is separate from the step of removing the carrier as is shown by the insertion of the recording element 106 into different slots 102 and 104.

With respect to claim 19, Figure 1 shows that the recording element 106 is first printed by printheads 96 and then after printing is completed the recording element is inserted into slot 102 for carrier removal.

With respect to claims 20 and 21, Jurrens et al. discloses another embodiment in which the recording element 106 is transferred using a mechanical device as shown in Figures 2-4. Since the device handles media it is a media handling mechanism.

With respect to claim 22, Jurrens et al. discloses that a user transfers the printed recording element 106 to the carrier removal operation by placing the printed recording element 106 in a slot 102.

With respect to claim 23, the step of removing the carrier includes applying heat to the recording element 106 with heated roll 100 as shown in Figure 1 of Jurrens et al.

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With respect to claim 24, the step of increasing the durability characteristic of the recording element includes applying pressure to the recording element 106 with rolls 100 and 116 as shown in Figure 1 of Jurrens et al.

With respect to claim 25, the step of increasing the durability characteristic of the recording element 106 includes applying heat to the recording element 106 with heated roll 100.

6. Claims 1 and 7 are rejected under 35 U.S.C. 102(e) as being anticipated by Takekoshi et al. (JP 10-291304).

With respect to claim 1, Takekoshi et al. discloses a system for printing and treating a recording element including a printheads 101 for dispensing a liquid ink comprising a carrier. Takekoshi et al. further discloses a carrier removal station 103. Paragraph [0016] of the machine translation of Takekoshi et al. discloses that heater 103 dries the recording element which inherently involves evaporating a fluid carrier from a recording element. While Takekoshi et al. does not explicitly recite that a predetermined percentage of carrier is removed, it is inherent in the design of the system that the carrier removed be within an adequate, predetermined range that achieves the desired function without removing too much carrier and causing damage to the recording element. Also disclosed by Takekoshi et al. is a converting station 105,106 positioned downstream of the carrier removal station 103, which increases the recording element's durability through heat and pressure and stabilizes the image as disclosed in paragraph [0002] of the machine translation of Takekoshi et al.

With respect to claim 7, Takekoshi et al. discloses that the printhead is a bubble jet printhead (see paragraph [0016] of the machine translation) which is a thermal head since the bubble jet printhead uses thermal elements to vaporize the ink to form bubbles.

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Goldberg et al. (US 6,513,924) in view of Clark et al. (US 6,409,316).

Goldberg et al. discloses the claimed system, as mentioned above with respect to claim 1, except that it is not known what type of printhead is used. However Clark et al. teaches a thermal ink jet printhead 10. It would have been obvious to combine the teaching of Clark et al. with the system disclosed by Goldberg et al. for the advantage of improved ink resistance and channel and nozzle features with improved aspect ratio (Clark et al., col. 1, lines 5-9)

9. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Goldberg et al. (US 6,513,924) in view of Kinpara (US 2004/0246291).

Goldberg et al. discloses the claimed system, as mentioned above with respect to claim 1, except that it is not known what type of printhead is used. However Kinpara teaches a piezoelectric printhead. It would have been obvious to combine the teaching of Kinpara with the

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system disclosed by Goldberg et al. for because the piezoelectric ink jet printhead has advantages, especially for color printing, because the potential for degradation of the ink drops due to thermal energy is eliminated (especially, the color ink is more likely to be degraded by heat). Furthermore, flexible control of the amount of ink drops can be accomplished by control of the deformation amount of the piezoelectric vibrator. Accordingly, the piezoelectric ink jet printheads are suited for configuring the ink jet printing device with a capability for high quality color printing (Kinpara, col. 1, paragraph [0004]).

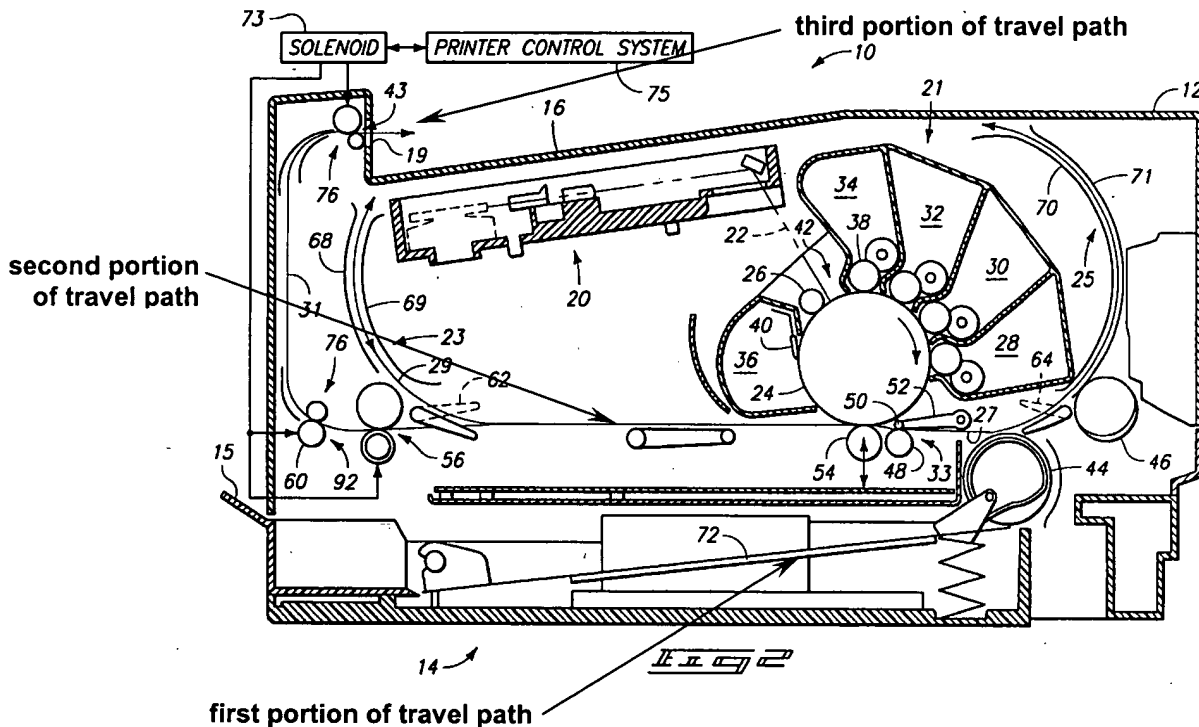
10. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Goldberg et al. (US 6,513,924) in view of Martin et al. (US 2003/0156169).

Goldberg et al. discloses the claimed system, as mentioned above with respect to claim 1, except that it is not known what type of printhead is used. However Martin et al. teaches a continuous ink jet printhead. It would have been obvious to combine the teaching of Martin et al. with the system disclosed by Goldberg et al. for the advantage that the energy required to create droplets by disturbing continuous jets is significantly lower than that required to eject a complete drop. Thus, the actuator means of the present invention are easier to design and manufacture because the area required thereof is smaller. The foregoing provides higher resolutions and drop generation frequencies, and affords more compact design. (Martin et al., paragraph [0009]).

11. Claims 7-10 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Goldberg et al. (US 6,513,924) in view of Guerrero et al. (US 6,227,531).

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With respect to claim 7, Goldberg et al. discloses the claimed system for printing except for the second portion of travel. However, Guerrero et al. discloses a printing system that includes a first portion and an overlapping second portion of the travel path as shown below in the Figure taken from Figure 2 of Guerrero et al.:



It would have been obvious to combine the teaching of Guerrero et al. with the system for printing disclosed by Goldberg et al. for the advantage of overlapping the travel paths and reducing the amount of space (the footprint) that the printing system takes up.

With respect to claim 8, Guerrero et al. teaches a third portion as shown in the above Figure taken from Figure 2 of Guerrero et al. The third portion overlaps a portion of the second portion.

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With respect to claim 9, Guerrero et al. teaches a first and second portion of the recording element travel path such that the directions of the travel paths are opposite of one another as shown above.

With respect to claim 10, Guerrero et al. teaches a third portion of the travel path having a third direction of travel that is substantially similar to the first direction of travel as shown above.

With respect to claim 16, Goldberg et al. discloses the claimed printing system except that it is not known to the examiner if the carrier removal station and the converting station are contained in the same unit. However, it is known to contain all the structure of a printing system in one unit as shown by Figure 2 of Guerrero et al. It would have been obvious to combine the teaching of Guerrero et al. with the printing system disclosed by Goldberg et al. for the advantage of maintaining all the printing system structures in their desired locations relative to one another.

Allowable Subject Matter

12. Claims 11-14 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

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13. The following is a statement of reasons for the indication of allowable subject matter:


Claims 11-14 have been indicated as containing allowable subject matter primarily for the first unit in which a printhead is located and the second unit in which a carrier removal station and converting station are located.

14. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dan Colilla whose telephone number is (571)272-2157. The examiner can normally be reached Mon.-Thur. between 7:30 am and 6:00 pm. Faxes regarding this application can be sent to (703)872 - 9306.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Andrew Hirshfeld can be reached at (571)272-2168. Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703)308-0956.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

January 13, 2005


Daniel J. Colilla
Primary Examiner
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